

VIRTUAL COMMUNITIES: THE EFFECT OF TECHNOLOGY ON LEARNING

Anna Wildy

This paper is an exploration of the effects that communication technologies have on university students' sense of community. The impact of communication technology has been twofold. While it has enabled globalization, and in turn affected the ways in which we interact within our community, it has also dismantled the barriers of space and time that have traditionally restricted students' access to university. As such, universities incorporate communication technologies within their teaching practices as a method of providing effective and efficient teaching practices.

I contrast some definitions of communities in the 21st Century that theorists have proposed. I then consider these definitions within a broader educational context, and explore the factors associated with learning in a virtual realm. I discuss whether intellectual engagement alone suffices in higher learning, or whether the physical component is a factor that can not be replaced.

Defining a community in the 21st Century is a complex task. Globalisation has had a profound impact on communities as computers, travel and electronic media dismantle the traditional barriers among groups of people (Johns, Smith & Strand, 2002, p. 85). In today's globalised world, theorists are at odds to reconcile the traditional concept of community where physical location is a central tenet (see for example Bell & Newby, 1975) with the impact that the virtual realm has had on communities. The key premise that theorists struggle with is whether the sense of belonging or solidarity we seek in a community can be obtained in both the virtual realm and with physical contact (Fernback, 2002, p. 41).

Rheingold (1993) considers virtual communities to be 'social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace' (p. 5). For Rheingold, it is the nebulous concept of 'sufficient human feeling' that decides whether a community is formed and notably, he does not include a spatial dimension in his definition (Fernback & Thompson, 1995, p. 5), as Rheingold considers intellectual stimulation the key to a community.

In an attempt to quantify Rheingold's concept of 'sufficient human feeling', McMillan and Chavis (cited in Blanchard & Markus, 2002, p. 2) developed a model of community. Their framework has four dimensions; feelings of membership, feelings of influence; integration and fulfillment of needs; and shared emotional connection. They demonstrate how each dimension is possible to obtain without physical contact or face to face interaction. Central to each of these dimensions is the participants' intellectual engagement. Blanchard & Markus (2002) show how the dimensions can be fulfilled through intellectual engagement which does not necessarily require face to face contact.

In contrast, Wilbur (1997) takes a more traditional approach and considers physical connection an essential element in a community. Wilbur (1997) argues that an authentic experience cannot be created through technological means and he views the virtual realm as a simulation of

community which has both no real people and no real communication (p.14). Clearly, for Wilbur, a community must have a component of physical contact to enable meaningful communication.

These theorists represent the polarized arguments as to what constitutes a community. Just as Wilbur (1997) believes a community must have a geographical basis, Rheingold (1993) and Blanchard and Markus (2002) consider the fundamental tenet of a community to be intellectual engagement and stimulation. How then does university students' sense of community affect their learning? Do the arguments of Rheingold (1993) and Blanchard and Markus (2002) apply in a scholarly setting, or do university students require some face-to-face interaction, as Wilbur (1997) would argue, in order to feel a part of the university community?

Online learning can take place in a number of ways. For instance, online discussions (such as email and listservs) can be used to supplement face to face teaching, while online discussions can also be the primary means of communication between instructors and students as a part of distance education (Tiene, 2000, p. 371). I consider both to be virtual communities and I examine the extent to which each form of online communication facilitates a sense of community.

Tiene (2000) reports on a study which measured university students' satisfaction with online discussion over face-to-face communications. He identifies a number of positive and negative implications that emerge when university students interact in online discussions, particularly the issue of asynchronicity and its associated advantages and disadvantages. For example, not having to react and respond instantly to a comment, as one does in face-to-face interactions, gives people an opportunity to think about their responses and give a considered and potentially more eloquent, meaningful response. Research suggests students prefer asynchronous discussions over synchronous discussions (Poole cited in Im & Lee, 2003/2004, p. 156). However, asynchronicity also has negative consequences which include a loss of spontaneity in the discussion and tendency to lose the focus of the topic. Tiene (2000, p. 373) also notes that people communicate differently when they write compared with when they speak. People can express ideas more carefully online than they can by verbalizing them. However, people's ideas expressed online can be more easily misunderstood without facial and verbal cues. Nevertheless, Tiene (2000) believes that people find that they can contradict others or engage in a healthy debate more in an online discussion than a face-to-face discussion.

Integral to these issues is the effect that anonymity has for people engaging in online discussions. The level of anonymity students feel depends on whether the students have any face-to-face class contact time. In this instance, people are able to match a comment with a face, whereas in distance education it is possible that students will never meet face-to-face. The lack of visual cues (however temporary) and its associated sense of anonymity allow people to express themselves in a less inhibited fashion (Tiene, 2000, p. 376). However, given that the discussion is generally information-based and theory-oriented, visual cues are less important than they would be in personal communications (p. 376).

Rheingold (1993) asserts that meaningful interaction is the key to establishing a community. If we use this as a criterion, then we could assume that online discussion does create a sense of community for the participants. The report into Best Practices for Electronically Offered Degree and Certificate Programs (2000) maintains that a 'community of learning' is best experienced where competent professionals facilitate a dynamic and interactive learning program, regardless of the setting in which it occurs (p. 1). Indeed, Scarboro (2004, p. 226) argues that the 'new-age student is versed in the new-age media' and online discussions challenge the participants to become independent learners and thinkers, and 'gain a greater understanding for the material as well as a true sense of achievement'

by enriching their own experience and their peers experience (p. 226). Therefore, it appears that McMillan and Chavis' (cited in Blanchard & Markus, 2002, p. 2) four dimensions in their model of community are applicable; the students have a sense of membership to the group, they have feelings of influence, their needs are being fulfilled and they are experiencing a shared emotional connection.

Rheingold's argument of meaningful interaction is a key point in learning theories. Disseminating information online does not necessarily escape the didactic, authoritarian format of traditional lectures. For example, even though the transmission mode varies as students' access online lecture notes instead of attending a lecture, ostensibly there is still a one way information flow. Regardless of whether the information is presented face-to-face or virtually; the central premise for meaningful interaction is *how* the information is presented and the degree of interaction and engagement the students have with the materials.

Tiene's (2000) findings suggest that students feel positively about their online discussion experiences, although they do not prefer it to face-to-face discussions. He concludes that the role of online discussion is best utilised as an addition to face-to-face dialogue, not as a substitution (p. 376). In effect, Tiene (2000) is arguing for a combination of both Rheingold's and Wilbur's positions, by using the positive elements from both theorists standpoints. In this case then, we could suggest that a combination of online discussion and face-to-face communication in an university environment results in a sense of community. What about if there is no face-to-face communication? Is the sense of community the same if there is only online discussion?

There are a number of reasons why students choose to engage in distance education, and this is primarily because online discussion is considered to be a learning environment in which students can achieve a *higher* conceptual knowledge through interaction of knowledge and experience among all students (Harasim, cited in Im & Lee, 2003, p. 155). Other reasons include work and family commitments, geographical isolation, efficient information access and the perceived quality of a course that they can study at a distance (Purnell, Cuskelly & Danaher, 1996; Im & Lee; 2003/2004). Some students prefer distance education because of the flexibility and autonomy it provides, and are more likely to show personal characteristics such as independence, self-confidence, flexibility, and a capacity to deal with uncertain situations (Peters, 1992, p. 241). However, most people find the demands of balancing their various commitments with study onerous (Purnell, Cuskelly & Danaher, 1996). McMurtrie (1996a) notes that while some students choose distance education for lifestyle reasons, the majority of students who access distance education do so because they have no other option. Therefore, these students may not necessarily have the dispositions required of distance learning of independence, autonomy and flexibility because they study in this format as there was no other choice available to them.

Distance education is a particularly attractive option for women who are the primary care givers in their family (Purnell, Cuskelly & Danaher, 1996) because the flexibility of access allows women to study at times suited to their personal schedules. Furthermore, along with the Internet, it is seen as a potentially powerful tool for rural women to express their own legitimate voice (Slingsby, cited in Purnell, Cuskelly & Danaher, 1996). Moreover, the text only format of online discussions reduces cues regarding appearance, race, gender, education and social status, which gives the participants a form of anonymity (Im & Lee, 2003/2004, p. 157).

These advantages are fundamentally issues of convenience, and there is little evidence to suggest that distance education courses enable students to feel a sense of community. Indeed, after surveying the literature, Purnell, Cuskelly & Danaher (1996) believe that distance education students

need support services which generates ‘a feeling of belonging to the providing institution’ (p. 4). Ironically though, their suggestion for creating this sense of belonging is to have contact with lecturers and other students for social and academic purposes. Purnell, Cuskelly & Danaher (1996) then have a similar perspective to Wilbur (1993) and Barlow (1999) who argue that online communication by itself is not enough to constitute a community.

However, for distance education students, a face-to-face meeting to enable a sense of community may not be an effective solution. As Purnell, Cuskelly & Danaher (1996) suggest, many distance education students are often mature age and have demanding work and family commitments. The distance education unit which has a compulsory on-campus component can cause stress for the student who has to then juggle the competing demands of the financial cost, time away from work and family commitments (p. 4). A more suitable option then may be interactive television which allows for greater interaction between students and access with lecturers and students. Gurak & Duin (2004, p. 187) warn against evangelizing about the power of the Internet and communication technologies. We have assumed that the distance education students have at least a basic, rudimentary understanding of computers. This is not necessarily the case. McMurtrie (1996b) argues that technology can be as exclusionary as it is inclusive, and more limiting than it is equitable due to students’ lack of access, competency and confidence to technology. Furthermore, research on other forms of technologies to facilitate learning have suggested that the medium is only effective when there is interaction (and in turn intellectual engagement) as information disseminated in a didactic fashion is largely ineffective. This has lead McMurtrie (1996c) to claim ‘Technology should only be viewed as a useful tool when used appropriately, with adequate support services, not as a cure-all haphazardly inflected on a defenceless audience.’

Despite assertions of the potentially superior benefits of learning online (eg Scarboro, 2004; Im & Lee, 2003/2004), it appears that most theorists advocate a combination of both face-to-face and online learning as the most suitable option for university students. However, in some instances where face-to-face communication is not a viable option, other forms of technology can be utilised to enable the crucial component of face-to-face contact. This suggests that Wilbur’s (1997) arguments have the most relevance to online learning, although the face-to-face contact that they argue is the central premise to a sense of community and can be delivered in a mediated form, such as through interactive television. In this way, a sense of community can be developed for distance education students participating in online discussions. We can see how globalisation and communication technologies have dismantled the traditional barriers of space and time, and enabled people to participate in communities outside their physical realm.

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